# Original



# OPERATING INSTRUCTIONS & SERVICE MANUAL

4-CHANNEL RECEIVER

SANSUI QR-500





SANSUI ELECTRIC CO., LTD.

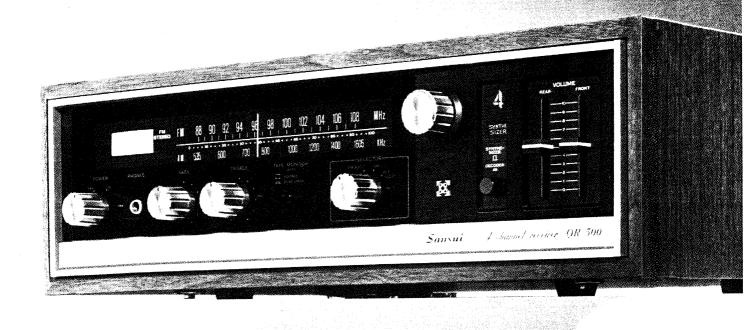
Congratulations on joining the thousands of proud, satisfied owners of quality stereo components from Sansui.

The Sansui QR-500 4-channel receiver incorporates Sansui's unique QS Synthesizing/Decoding matrix (patents pending) that produces a multi-dimensional sound field so enthusiastically received by many audio experts as purely 'revolutionary'. An instrument that literally heralds the new age of 4-channel stereo sound reproduction, the QR-500 not only converts ordinary 2-channel stereo discs, tapes and FM broadcasts into immensely richer 4-channel stereo sound, but, working in the capacity of a decoder, restores any 2-channel material encoded from four channels to its original full-fledged 4-channel status.

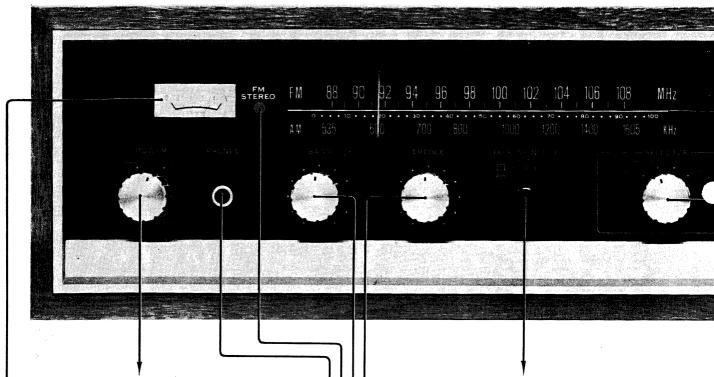
To enjoy dynamic life-like 4-channel stereo sound at its best, you should be well acquainted not only with the operation of the various controls of the QR-500, but with such matters as the proper positioning of speaker systems. Read carefully the instructions contained in this booklet, and you will be better prepared to take full advantage of the advanced performance capabilities of this new instrument for years to come.

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### SWITCHES AND CONTROLS



#### Power Switch

The receiver is turned on when the POWER switch is turned to the ON or right position.

#### Headphones Jack -

The PHONES jack accommodates headphones for monitoring or private listening of the front channel. Plug the headphones into the jack and the sound from speakers will be automatically cut off. Dynamic headphones are recommended for use.

#### Tuning Meter

This meter aids in pinpointing a station. The station is perfectly tuned when the needle swings as far to the right as possible.

#### FM Stereo Indicator -

This indicator glows when the dial pointer crosses a station making an FM stereo broadcast. It remains lit during the stereo reception.

#### Tape Monitor Switch

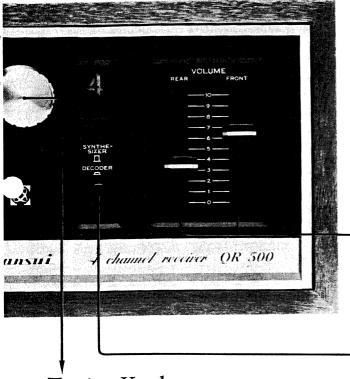
When this switch is once depressed, the amplifier is set to play the sound from the playback head of the 2-channel tape deck connected to the 2-CH TAPE PLAYBACK jacks on the rear panel of the amplifier. When it is again depressed to go back to its original position, the program source is heard from the speakers. Tape monitoring is possible only with a tape deck having separate record and playback heads. Except for such playback or monitoring, this switch must be in the SOURCE position.

#### Treble Control

The TREBLE control adjusts the intensity of the treble tones of the front speakers simultaneously. To emphasize the treble, turn the control clockwise. To diminish the treble, turn the control counterclockwise.

#### Bass Control

The BASS control adjusts the intensity of the bass tones of the front speakers simultaneously. To emphasize the bass, turn the control clockwise. To diminish the bass, turn the control counter lockwise.



#### Tuning Knob

Turn the knob to find the desired station.

#### Dial Scales

The upper scale is for FM, the lower for AM. Find your desired station on each band by turning the TUNING knob.

#### Selector Switch

PHONO—Selects a record player connected to the PHONO inputs on the rear panel of the amplifier.

FM AUTO—Selects FM programs.

AM-Selects AM programs.

AUX (4CH)—Selects the output of a component, such as a 4-channel tape deck, etc., connected to the 4CH AUX jacks on the rear of the amplifier.

#### Volume Controls

The FRONT VOLUME control adjusts the total volume of sound from the two front speakers, the REAR VOLUME control the two rear speakers. These controls are also used to adjust the balance between the front and rear channels.

To listen to an ordinary 2-channel stereo temporarily, set the SYNTHESIZER/DECODER switch to the SYNTHESIZER position and slide the REAR VOLUME control down to the 0 position. The two-channel signals, not converted into 4 channels, will be heard from the front speakers.

#### Synthesizer/Decoder Switch

- —Use this position to convert any ordinary 2-channel stereo source into 4 channels. To have the live listening experience in a concert hall, the 'Front 2-2 System' of speaker position is more effective (see page 7).
- —With the switch in this position, the original 4-channel material which has been encoded into two channels at the recording or broadcast end is recovered for 4-channel playback. The '2-2 system' of speaker position (see page 7) is more effective to re-create a hall-ambience around the listener. It also works well with ordinary two-channel materials of pop, rock, mood music, Moog sound, etc.

### **CONNECTIONS / OPERATIONS**

# Connecting the Front and Rear Speakers

Two stereo pairs of 4- to 16-ohm speakers can be connected to the QR-500. All connections in the top row of the SPEAKERS terminals are for the front speakers, and in the bottom row for the rear speakers. The speakers on your left, front and rear, when facing the front speakers should be connected to the LEFT terminals of the QR-500, and the speakers on your right to the RIGHT terminals. The plus terminals of your speakers should be connected to the red terminals of the QR-500, and the minus or common terminals to the black terminals.

#### Connecting a Record Player

A record player using a magnetic cartridge can be played through the QR-500. Connect the left channel output of the record player to the LEFT PHONO input of the amplifier, and the right channel output of the record player to the RIGHT PHONO input.

#### FM Antennas

#### Indoor Dipole Antenna:

The 300-ohm folded dipole antenna (supplied) is for indoor use in urban or strong-signal areas. Connect the two leads from the dipole to the ANTENNA terminals marked FM  $300\,\Omega$  on the rear panel, open the dipole antenna to a full 'T' and tack it up on a wall behind the component cabinet. It is necessary to position the antenna for the best signal pickup before the antenna is permanently tacked.

#### Outdoor Antenna

An outdoor antenna is recommended for optimum performance in all areas. Best results will be obtained with a rotator-driven antenna specifically designed for FM. Rotate the antenna until the best pickup is obtained. If the antenna is installed near a well-traveled street, it may pickup ignition noise. In this case, move it back from the street.

Connect the 300-ohm lead-in to the ANTENNA terminals marked FM  $300\Omega$  on the rear panel.

#### **AM Antennas**

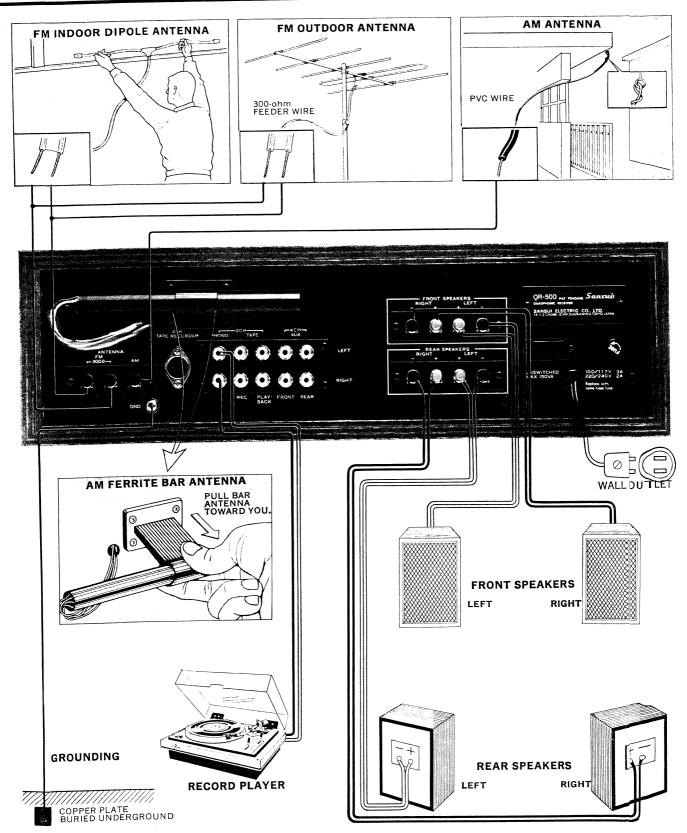
The highly sensitive ferrite bar antenna, located on the rear panel of the QR-500, is usually adequate for AM reception. Pull it toward you away from the back of the chassis. In weak-signal or fringe areas, a simple outdoor antenna may suffice. Connect one end of PVC wire (supplied) to the ANTENNA terminal marked AM and hook another end outdoors as illustrated on page 6.

#### Listening to Discs

- **1.** Set the SELECTOR switch of the QR-500 to the PHONO position.
- **2.** Make appropriate settings of controls on the turntable connected to the QR-500. Start playing the disc.
- **3.** Adjust the VOLUME controls of the QR-500 for the desired total volume of sound from the four speakers, and then for the desired balance between the front and rear channels.
- **4.** Use the BASS and TREBLE controls according to your preference or the room acoustics.

#### Listening to FM or AM Programs

- **1** Set the SELECTOR switch to FM AUTO or AM.
- **2.** Turn the TUNING knob to reach the desired station. The station is perfectly tuned when the needle in the TUNING meter swings as far to the right as possible. The FM STEREO indicator glows when an FM stereo broadcast is received. It remains lit during the stereo reception.
- **3.** Adjust the VOLUME controls for the desired total volume of sound from the speakers and for the desired balance between the front and rear channels.
- **4.** Use the BASS and TREBLE controls according to your preference or the room acoustics.



### TAPE DECKS/PLACEMENT OF SPEAKERS

# Connecting Tape Decks 2-Channel Tape Deck

There are two types of receptacles for connection of a 2-channel tape deck on the rear panel of the QR-500: one is for pin plugs and the other for the DIN plug.

To connect your tape deck to the pin jacks:

- 1. Connect the left channel output of the tape deck to the left channel jack marked 2CH TAPE PLAY-BACK, and the right channel output of the deck to the right channel jack marked 2CH TAPE PLAY-BACK.
- **2.** Connect the left channel input of the tape deck to the left channel jack marked 2CH TAPE REC, and the right channel input of the deck to the right channel jack marked 2CH TAPE REC.

If you want to use the DIN connecting cord, just insert the DIN plug into the receptacle marked 2CH TAPE RECORDER on the rear panel of the QR-500.

#### 4. Channel Tape Deck

The QR-500 is also provided with playback jacks for a 4-channel tape deck (not provided with recording jacks). Connect the outputs of the tape deck to the jacks marked 4CH (AUX) on the rear of the QR-500. Be sure connect the right and left, front and rear channels correctly as shown on page 8. The AUX input jacks, of course, can accept other components than the 4-channel tape deck.

#### Operating Tape Decks

#### Recording with a 2-Channel Tape Deck

- **1.** Set the SELECTOR switch to the program source (PHONO, FM AUTO or AM) to be recorded.
- 2. Start the tape deck in the recording mode.
- **3.** Make appropriate settings of controls on the tape deck. The recording is not affected by the controls of the QR-500.
- **4.** Set the TAPE MONITOR switch of the QR-500 to PLAYBACK if you want to monitor the recording with the tape deck having separate heads for recording and playback.

# Listening to Tapes with a 2-Channel Tape Deck

**1.** Depress the TAPE MONITOR switch to the PLAYBACK position.

- 2. Start the tape deck in the playback mode.
- **3.** Adjust the VOLUME controls of the QR-500 for the desired volume of sound from the speakers and for the desired balance between the front and rear channels.
- **4.** Use the BASS and TREBLE controls of the QR-500 according to your preference or the room acoustics.

# Listening to Tapes with a 4-Channel Tape Deck

- 1. Turn the SELECTOR switch to AUX (4CH).
- 2. Start the tape deck in the playback mode.
- **3.** Adjust the VOLUME controls of the QR-500 for the desired volume of sound from the speakers and for the desired balance between the front and rear channels.
- **4.** Use the BASS and TREBLE controls of the QR-500 according to your preference or the room acoustics.

#### Placement of Speakers

Basically there are two ways to place two pairs of speaker systems in the 4-channel stereo:

#### 2.2 System (Fig. 1)

This is the speaker-in-each-corner placement that is being widely accepted as the standard speaker position for 4-channel stereo. This position permits the listener to enjoy music surrounded by the four speaker systems.

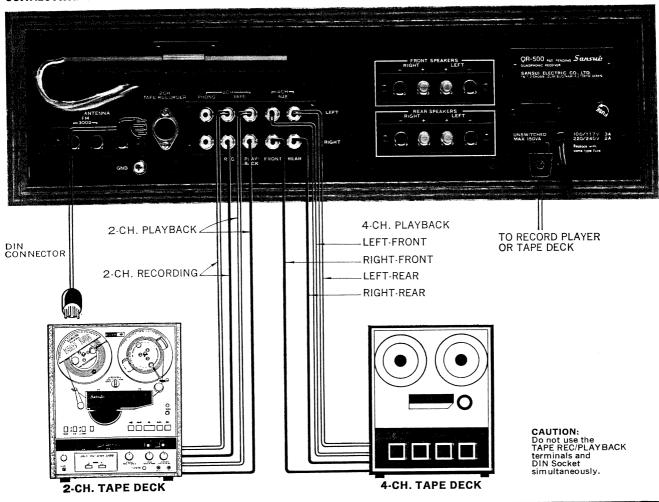
#### Front 2-2 System (Fig. 2)

This system is designed to create a live sound field in the listening area. The sound field is equivelent to the stage of a concert hall and the listener will have the live listening experience in the hall. With the SYNTHESIZER/DECODER switch in its SYNTHESIZER position, this system is more effective.

#### Compatible Placement (Fig. 3)

Place the rear speaker systems as shown in Fig. 3, p. 8, and the listener will be able to enjoy both systems in the limited space available. To enjoy the '2-2 system', he should situate himself near point A, and to enjoy the 'front-2-2 system', near point B.

#### CONNECTING TAPE DECKS



### PLACEMENT OF SPEAKERS

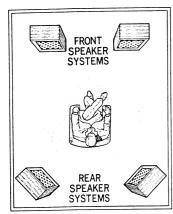


Fig. 1 2-2 SYSTEM

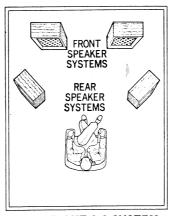


Fig. 2 FRONT 2-2 SYSTEM

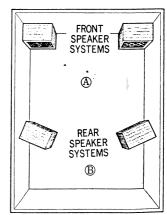


Fig. 3 COMPATIBLE PLACEMENT

### SIMPLE MAINTENANCE HINTS

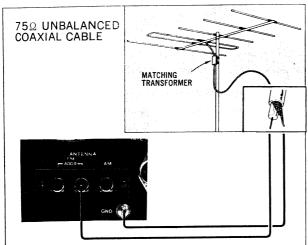
# How to Eliminate Radio Noise On AM Programs

AM reception noise can often be eliminated by slightly changing the position of the receiver. Some noises are peculiar to a certain broadcasting frequency or a certain time of day. Such noises result from the nature of AM signals. In fringe or weak-signal areas, connect the AM antenna (supplied) to the AM ANTENNA terminal as shown on page 6.

#### On FM Programs

Noise on FM programs may be attributed to either insufficient antenna input or interference from other electrical appliances. In fringe or weak-signal areas, install an outdoor multi-element antenna with a rotator and position it for best signal pickup.

If it is installed near a well-traveled street, it may pick up ignition noise. In this case, move it back from the street. If still noisy, use coaxial cable (unbalanced 75-ohm) in place of the 300-ohm lead-in. Attach a matching transformer  $(300\,\Omega\!\to\!75\,\Omega)$  to the antenna and then connect the center conductor to either  $300\,\Omega$  terminal, and the shield to the GND terminal on the rear panel of the QR-500.

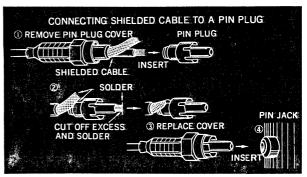


#### Connection of Components

Use the shielded cables to connect the audio components such as a tape deck, record player, etc. to the QR-500. These cables not only keep the distributed capacity to a minimum but are very stable against environmental changes. The use of ordinary lamp cord usually results in picking up hum. Generally, the longer the connecting cable, the more the

treble notes tend to be attenuated. It is therefore wise to keep their length below 7 feet or so.

The shielded cable is made up for use as illustrated below:



#### Grounding

Connect a PVC or enameled wire from the GND terminal to a grounded metal conductor such as a cold-water pipe, copper plate or carbon rod. Never connect it to a gas pipe. The grounding eliminates the possibility of hum and may reduce noise on radio programs.



#### Power and Quick-Acting Fuses

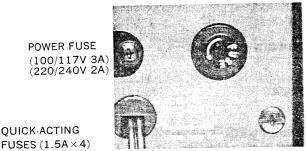
If there is no sound from all speakers and the pilot light is off when the power switch is turned on, check the power fuse on the rear panel. Should the power fuse blow, remove the AC line cord and replace the blown fuse with a new glass-tubed fuse of the same capacity (3-ampere fuse required for 100-117 volt operation; 2-ampere unit for 220-240 volt operation). Please purchase the new fuse from your nearest electric goods store.

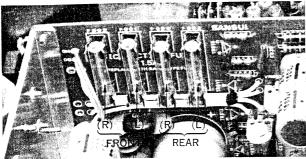
If the pilot light is on but there is no sound from both or either of the front and/or rear speaker systems, check the quick-acting fuses. If the right-front fuse, for example, should blow, the right-front

speaker system becomes dead. To reach the fuses, remove the AC line cord from its outlet and then the bonnet from the chassis. After eliminating the cause of the blowout, replace the blown fuse with a new 1.5-ampere fuse (supplied). The trouble may be attributed to the shorted output circuit or excessively large input.

If the new fuse blows when the power switch is turned on, contact your nearest Sansui dealer or Authorized Service Station.

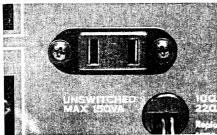
Caution: Never use a piece of wire or a fuse of different capacity, even as a stop-gap measure, or serious danger could result.





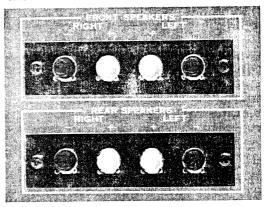
#### AC Outlet

The AC outlet on the rear panel is live at all times and independent of the power switch. Its maximum rating is 150VA. It is dangerous to connect a component with a bigger power requirement. Before connecting any component, make sure its power requirement does not exceed 150VA.



#### Phasing of Speakers

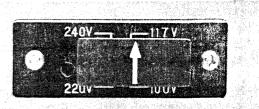
If the polarities (plus and minus) of the front left and right speaker systems are not identical, sound from them will lack a sense of natural sound, and also be weak in the bass range. The same applies to the polarities of the rear left and right speaker systems. Make sure the plus terminals of each speaker system have been connected to the corresponding red terminals of the QR-500, and the minus terminals of each speaker system to the corresponding black terminals. If the sound is still unnatural, the rear speakers should be changed in position and direction until natural 4-channel stereo effect is obtained.



#### Voltage Adjustment

To reach the voltage selector, remove the two screws from the name plate on the rear panel, then remove the name plate. The voltage selector makes it possible to operate the QR-500 at the correct volt in any area. The volt has been pre-adjusted at our factory, but can be easily readjusted as follows:

- 1. Set the arrow on the voltage selector plug to the required volt: 100, 117, 220 or 240.
- 2. The power fuse should be changed, if required. For 100-117 voltage operation, a 3-ampere fuse is required. For 220-240 voltage operation, a 2-armpere fuse is required.



### **SPECIFICATIONS**

#### AUDIO SECTION

POWER OUTPUT

MUSIC POWER (IHF): 60W at 4 ohms load

40W at 8 ohms load

CONTINUOUS POWER: 11W x 4 at 4 ohms load

8W × 4 at 8 ohms load

TOTAL HARMONIC DISTORTION:

less than 1% at rated output

INTERMODULATION DISTORTION: (60Hz: 7,000Hz=4:1

SMPTE method) less than 1%

POWER BANDWIDTH: 30 to 30,000Hz at 8 ohms load

FREQUENCY RESPONSE: (at normal listening level)

30 to 30,000Hz  $\pm$ 2dB

CHANNEL SEPARATION: (at 1,000Hz, rated output)

better than 50dB

HUM AND NOISE (IHF)

PHONO: less than -60dB AUX: less than -70dB

ress man — / oub

INPUT SENSITIVITY (at rated output, 1,000Hz)
PHONO (2-CHANNEL): 3mV (50k ohms)

4-CHANNEL INPUT: 180mV (50k ohms)
TAPE MON (pin): 180mV (50k ohms)
TAPE RECORDER (DIN): 180mV (50k ohms)

RECORDING OUTPUT (at rated output, 1,000Hz)

TAPE REC (pin): 180mV
TAPE RECORDER (DIN): 30mV

LOAD IMPEDANCE: 4 to 16 ohms

DAMPING FACTOR: 50 at 8 ohms load EQUALIZER PHONO: RIAA NF Type

TONE CONTROLS (Front channel only)

BASS: +10dB, -10dB at 50Hz

TREBLE: +10dB, -10dB at 10,000Hz

LOUDNESS: (Volume control at -30dB)

 $+\,\mathrm{6dB}$  at  $50\mathrm{Hz}$ 

#### **TUNER SECTION**

< FM >

TUNING RANGE:

88 to 108 MHz

SENSITIVITY

20dB QUIETING:  $2.5\mu V$  IHF:  $5.0\mu V$ 

TOTAL HARMONIC DISTORTION: less than 1%

SIGNAL TO NOISE RATIO: better than 50dB SELECTIVITY: better than 35dB

CAPTURE RATIO:

3dB

IMAGE REJECTION:

IF REJECTION:

better than 45dB better than 60dB

SPURIOUS RESPONSE REJECTION:

better than 60dB

STEREO SEPARATION:

better than 30dB at 400Hz

SPURIOUS RADIATION: less than 34dB

<AM>

TUNING RANGE: 535 to 1,605kHz

SENSITIVITY:  $350 \mu V$  at 1,000kHz (bar antenna)

IMAGE FREQUENCY REJECTION:

better than 50dB at 1,000Hz

IF REJECTION:

better than 45dB at 1,000Hz

SELECTIVITY:

better than 20dB

#### SYNTHESIZER SECTION

INPUT LEVEL

RATED INPUT (2-channel): 180mV (50k ohms)

FREQUENCY RESPONSE

FRONT CHANNEL: 20 to 20,000Hz  $\pm 1$ dB

REAR CHANNEL: 20 to 20,000Hz + 1dB - 2dB

REAR CHANNEL PHASE SHIFT

LEFT: -90 degrees at 300Hz RIGHT: +90 degrees at 600Hz

#### **SEMICONDUCTORS**

TRANSISTORS: 50
FET: 1
DIODES: 23
IC: 3

#### **POWER REQUIREMENTS**

POWER VOLTAGE: 100, 117, 220, 240V 50/60Hz POWER CONSUMPTION: 60W (max. signal)

#### **DIMENSIONS**

445mm (17 $\frac{9}{16}$ ") W × 132mm (5 $\frac{1}{8}$ ") H × 306mm (12 $\frac{1}{16}$ ") D

WEIGHT

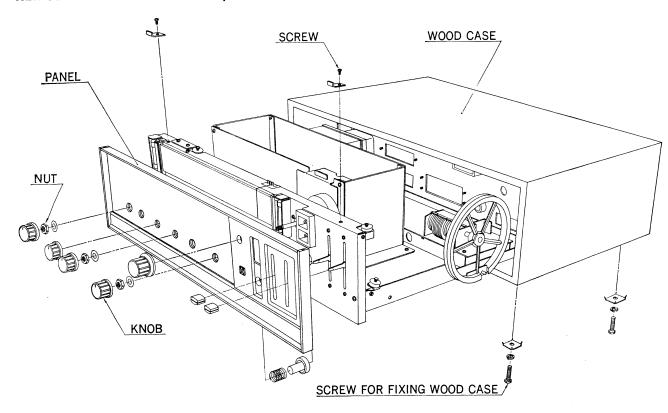
7.6kg (16.8 lbs.)

<sup>\*</sup> Design and specifications subject to change without notice for improvements.

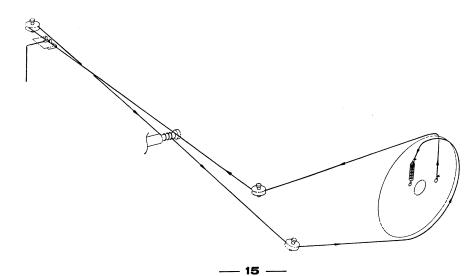
# DISASSEMBLY PROCEDUR

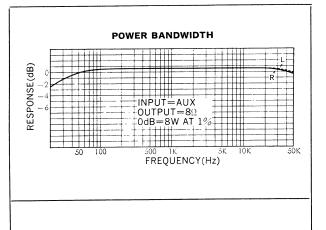
# CHARACTERISTICS / ACCESSORIES

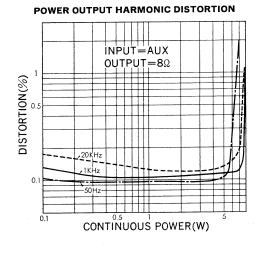
## REMOVING THE FRONT PANEL, WOOD CASE AND BOTTOM BOARD

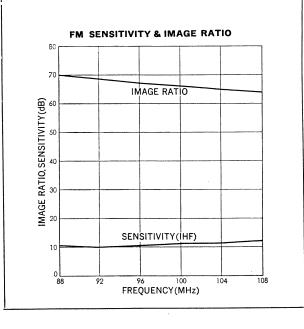


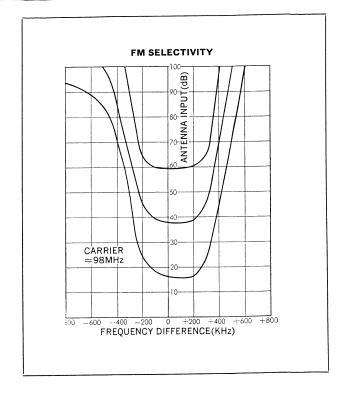
### DIAL MECHANISM







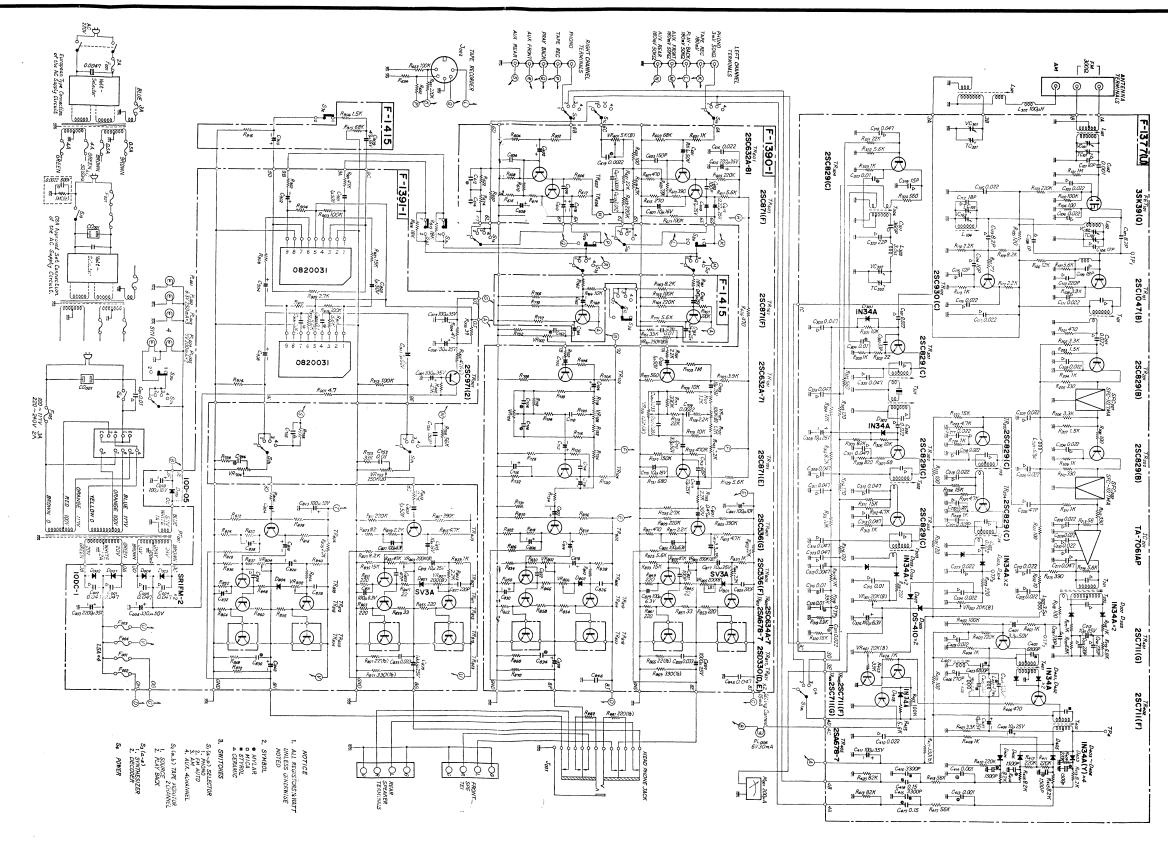




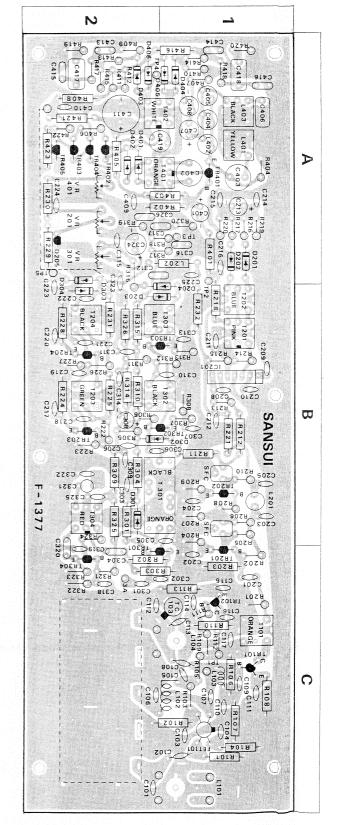
#### **ACCESSORIES**

		-
1.	OPERATING INSTRUCTIONS	
	AND SERVICE MANUAL	1
2.	OPERATING SHEET	1
3.	FM ANTENNA	1
4.	AM ANTENNA	1
5.	PIN-PLUGS	4
6.	QUICK ACTING FUSES (1.5A)	2
7.	BUTTERFLY BOLTS	2
8.	WASHERS	2

# **SCHEMATIC DIAGRAM**



W		Х			Y	Z
C116	0.022µF				0656223	1 C
C117	0.022µF				0656223	1 C
C201	0.0224E				0656223	1 C
C202	$0.022 \mu F$	80 %	25 V	CC.	0656223	1 C
C203	0.022μF				0656223	1 B
C204	0.022µF				0656223	1 B
C205	0.022µF)				0656223	1 B
C206	47 pF ±	10%	50 V	CC.	0660470	2 B
C208	0.022µF\				0656223	1 B
C209	0.022μF	00			0656223	1 B
C210	$0.022 \mu F $	-80 % -20 %	25 V	CC.	0656223	1 B
C211	0.047μF				0656473	1 B
C212	0.022 $\mu$ F $/$				0656223	1 B
<b>C</b> 213	10μF		25 V	EC.	0513100	1 A
C214	220 pF				0660221	1 A
C215	220 pF > =	E10%	50 V	CC.	0660221	1 A
C216	220 pF )				0660221	1 A
C217	0.022μF \				0656223	2 B
C218	0.022μF				0656223	2 B
C219	0.022μF				0656223	2 B
C220	0.022μF				0656223	2 B
C221	0.022µF \ ⊣	-80 % -20 %	25 V	CC.	0656223	2 B
C222	0.022,	-20/0			0656223	2 B
C223	0.022μF				0656223	2 B
C224	0.022μF				0656223	2 A
C225	0.022μF				0656223	1 A
C301	0.022μF)	100/	50.17		0656223	2 C
C302		±10%	50 V		0660330	1 C
C303	0.047μF _	-80 % -20 %	25 V	CC.	0656473	2 C
<b>C</b> 304		±10%	50 V	MC.	0601107	2 C
C305	0.047μF	80			0656473	2 B
C306	0.022μF	-80 % -20 %	25 V	CC.	0656223	1 B
<b>C</b> 307	0.047 μF /				0656473	1 B
<b>C</b> 308	10μF		25 V	EC.	0513100	2 B
<b>C</b> 309	$0.047 \mu F$	- 80			0656473	2 B
<b>C</b> 310		-80 % -20 %	25 V	CC.	0656473	1 B
C311	0.047μF)	/			0656473	2 B
<b>C</b> 312		±10%	50 V	MC.	0601476	2 A
<b>C</b> 313	0.047μF	⊢80 a∠	05.14		0656473	1 B
C314		⊦ <sup>80</sup> %	25 V	CC.	0656473	2 B 2 A
C315	0.01μF)				0656103	1 A
C316	$0.01 \mu F$	±10%	50 V	MC.	0601107	2 A
<b>C</b> 317	0.022μFJ	⊦80 % -20 %	05 V	CC	0601227	
<b>C</b> 318			25 V		0656473	2 C
C319		±10%	50 V		0660150	2 C
C320		±10%		MC.	0601107	2 B , C
<b>C</b> 321		± 5 %			0620361	2 B
C322		±10%			0660220	2 B
<b>C</b> 323	0.047 μF	+80 % -20 %	25 V	CC.	0656473	2A, B
C324	100μF		6.3 V	EC.	0511101	2 A
<b>C</b> 325		⊦80 % -20 %	25 V	CC.	0656473	2 B
		±10%	50 V		0601107	1 A
C326		_ 10/0	50 V		0515339	1 A
f 401	3.3 µF		JU 1	L.C.	0010007	173
C401 C402	6800 pF)				0620682	1 A



# GENERAL TROUBLESHOOTING CHART

If the receiver is otherwise operating satisfactorily, the more common causes of trouble may generally be attributed to the following:

- 1. Incorrect connections or loose terminal contacts. Check the speakers, record player tape deck, antenna and power cord.
- 2. Improper operation. Before operating any audio com-

ponent, be sure to read its manufacturer's instructions.

- **3.** Improper location of audio components. The proper positioning of components, such as speakers and record player is essential to the maximum stereo enjoyment.
- **4.** Defective audio components.

The following are more other common causes of malefunction and what to do about them.

PROGRAM	SYMPTOM	PROBABLE CAUSE	WHAT TO DO
AM, FM or MPX reception	A. Constant or intermittent noise heard at times or in certain areas	* Discharge or oscillation caused by electrical appliances, such as fluorescent lamp, D.C. motor, or rectifier  * Insufficient antenna input due to ferroconcrete wall or long distance from station	* Attach noise limiter to electrical appliance producing noise, or attach it to the receiver's power source  * Reverse power cord plug/receptacle connections  * Keep receiver at proper distance from other electrical appliances  * Install antenna for maximum antenna efficiency. See "ANTENNA" in operating instructions
FM, or FM MPX reception	sion conditions of stat efficiency. As a result	* Poor noise limiter effect or too low S/N ratio due to insufficient antenna input  fected considerably by transmision, such as power and antennate, you may receive one stationing another station poorly.	* Install dipole antenna (supplied) for maximum signal strength  * If this does not prove effective, use exclusive FM outdoor antenna  * Excessively long antenna may cause noise
	B. A series of pops	* Ignition noise caused by starting of nearby auto- mobile engine	* Install antenna and its lead-in wire at proper distance from street or in- crease antenna input as discribed before
	C. Channel separation deteriorates during reception	* Excess heat	* Circulation of room air is important to receiver. Be sure that receiver is well ventilated
Record playing or tape playback	A. Hum or howling	* Record player placed directly on speaker  * Wire other than shielded cable used  * Loose terminal contact	* Place cushion between record player and speaker cabinet or place them away from each other * Connecting shielded cable should be as short as possible
	B. Surface noise	* Worn or old record  * Worn phono stylus  * Phono stylus is dusty  * Improper stylus pressure	* Recondition playback head of tape deck or the stylus of record player  * Turn TREBLE control counterclockwise
4-Channel stereo playback	A. Position of musical instruments and voice not clear	* Incorrect phasing of speakers or input connections	* Check phasing of speakers and input connections  * The rear speakers should be changed in position and direction

# PRINTED CIRCUIT BOARDS AND PARTS LIST

W: Parts No. X: Parts Name Y: Stock No. Z: Position of Parts

#### TUNER BLOCK (F-1377U)

w		X	Y	Z
			0101105	1.0
R101	1MΩ		0101105	1 C
R 102	100kΩ		0101104	1 C
R103	220kΩ		0100224	10
<b>R</b> 104	100Ω		0101101	10
R105	120Ω		0100121	1 C
R106	12kΩ		0101123	1 C
<b>R</b> 107	5.6kΩ		0101562	1 C
R 108	3.9k $\Omega$		0101392	1 C
<b>R</b> 109	8.2kΩ		0100822	10
<b>R</b> 110	2.2k $\Omega$		0101222	1 C
RIII	27Ω		0100270	1 C
<b>R</b> 112	2.2kΩ		0100222	10
<b>R</b> 113	1kΩ		0101102	10
<b>R</b> 201	470Ω		0100471	1 C
R202	3.3kΩ		0100332	1 C
R203	1.5kΩ		0101152	1 C
R204	lkΩ		0100102	1 B
R205	330Ω		0100331	1 B
R206	3.3kΩ		0100332	1 B
R207	1.5kΩ		0100152	1 B
R208	100Ω		0100101	1 B
R209	lkΩ		0100102	1 B
R210	330Ω		0100331	1 B
R211	lkΩ		0101102	1 B
R212	330Ω		0101331	18
R213	56Ω		0100560	1 B
R214	5.6kΩ		0100562	1 B
R215	390Ω		0100391	1 B
R216	lkΩ	>±10% ¼W CR.	0100102	1 A
R217	lkΩ		0100102	1 A
R218	100Ω		0101101	18
R219	6.8kΩ		0100682	1 A
R220	6.8kΩ		0100682	1 A
R221	100Ω		0101101	1 B
R222	15kΩ		0100153	2 B
R223	4.7kΩ		0100472	2 B
R224	1kΩ		0101102	2 B
R225	100Ω		0101101	2 B
R226	15kΩ		0100153	2 B
R226	4.7kΩ		0100472	2 B
R227	1kΩ		0101102	2 B
R229	220Ω		0101221	2 A
	120Ω		0101121	2 B
R231	10Ω		0101100	1 B
R232	10kΩ		0101103	2 B
R301	22Ω		0101220	2 C
R302	ikΩ		0101102	2 C
R303	12kΩ		0101123	28
R304	82kΩ		0100823	2 B
R305	1		0100103	2 B
R306	10kΩ		0100680	1 B
R307	68Ω		0100821	1 B
R308	820Ω 100Ω		0101121	2 B
R309	120Ω		0101121	2 B
R310	8.2kΩ 15kΩ		0100153	2 B
0		1	1 0100133	4.0
R311 R312	4.7kΩ		0100472	18

W	X	Y	Z
R314	120Ω	0101121	2 B
R315	10kΩ	0101103	2 B
R316	220Ω	0100221	2 B
<b>R</b> 317	4.7kΩ	0100472	1 A
R318	39kΩ	0100393	1 A
<b>R</b> 319	3.9kΩ	0100392	2 A
R320	15kΩ	0100153	1 A
<b>R</b> 321	22kΩ	0100223	2 C
R322	5.6kΩ	0100562	2 C
R323	lkΩ	0100102	2 C
R324	560Ω	0100561	2 B
R325	560Ω	0101561	2 B
R326	120Ω	0101121	2 B
R401	1kΩ	0101102	1 A
R402	100kΩ	0101104	1, 2 A
R403	220kΩ \	0101224	1, 2 A
R404	$1k\Omega$ $\pm 10\%$ ¼W CR.	0100102	1 A
R405	100Ω	0101101	2 A
R406	470Ω	0100471	2 A
R407	3.3kΩ	0100332	1 A
R408	lkΩ	0101102	2 A
R409	220kΩ	0100224	2 A
R410	220kΩ	0100224	1 A
R411	220kΩ	0100224	2 A
R412	220kΩ	0100224	2 A
R413	8.2kΩ	0100822	2 A
R414	8.2kΩ	0100822	1 A
R415	8.2kΩ	0100822	2 A
R416	8.2kΩ	0101822	1, 2 A
R417	56kΩ	0100563	2 A
R418	56kΩ	0100563	1 A
R419	82kΩ	0100823	2 A
R420	82kΩ)	0100823	1 A
R421	330 $\Omega$ ±10% ½W SR.	0111331	2 A
R422	10kΩ )	0101104	2 A
R424	$1k\Omega > \pm 10\%         $	0101472	2 A
R425	5.6kΩ)	0101562	2 A
VR201	$20k\Omega$ (B) FM Meter Adj. $20k\Omega$ (B) AM Meter Adj.	1032122	2 A
VR301	,	1032122	2 A
VR401	20kΩ (B) Stereo Indicator Adj.	1032122	2 A
C101	10pf)	0664100	2C
C102	$0.001 \mu F$ $\pm 10\%$ 50 V CC.	0654102	1 C
C103	0.022 <i>μ</i> F )	0656223	1C
C104	$0.022 \mu F \begin{pmatrix} +80 \\ -20 \% \end{pmatrix}$ 25 V CC.	0656223	10
C105	0.022 <i>μ</i> F)	0656223	1 C
C106	$\frac{12  \text{pF}}{2.0  \text{m}}$ $\pm 10\%  50  \text{V}  \text{CC}.$	0661120	2C
C107	8.2 pF) 10% 30 V CC.	0661829	1 C
C108	$1  pF \pm 0.25 pF 50  V  CC.$	0661109	1 C
C109	$18  pF$ $\pm 10\%  50  V  CC.$	0661180	1 C
C110	220 pF)	0660221	10
C111	$0.022 \mu F \begin{array}{c} +80 \\ -20 \% \end{array}$ 25 V CC.	0656223	1 C
C112	18 pF \	0669019	2 C
	00-5	0669015	10
C113			
C113 C114	$\frac{6.2  \text{pr}}{10  \text{pF}} + 10\%  50  \text{V CC}.$	0664100	1C
	7 ± 10% 50 V (7	0664100 0664100	1C 1C

# PRINTED CIRCUIT BOARDS AND PARTS LIST

W: Parts No. X: Parts Name Y: Stock No. Z: Position of Parts

### TUNER BLOCK (F-1377U) Continued

w	X	Y	Z
C404	1000 pF)	0620102	1 A
C405	$\frac{1000 \text{ pf}}{100 \text{ pf}}$ ± 5 % 50 V SC.	0620101	1 A
C406	270 pF ± 5 % 50 V MiC.	0640271	1 A
C406		0513100	1 A
	$\frac{10\mu\text{F}}{10\mu\text{F}}$ 25 V EC.	0513100	1 A
C408	10 μF)	0656223	2 A
C409	$0.022 \mu F$ $+80\%$ 25 V CC.	0656223	2 A
C410	0.022 [21]	0536223	2 A
C411	100 μF 35 V EC.		
C413	$0.001 \mu F$ $\pm 10\%$ 50 V MC.	0601106	2 A
C414	0.001 μF)	0601106	1 A
C415	$\pm 5\%$ 50 V SC.	0620332	2 A
C416	3300 pF)	0620332	1 A
C417	$0.15\mu F$ $\pm 10\%$ 50 V MC.	0601158	2 A
<b>C</b> 418	$0.15\mu$ FJ	0601158	1 A
C419	2700 pF ± 5 % 50 V SC.	0620272	1,2A
VC101~100	Voriable Capacitor	1220090	
FET101	3SK39 (Q)	0370080	1 C
TR101	2SC1047 (B)	0305800	10
TR102	2SC930(C)	0305790	1 C
TR201	1	0305460	1 C
TR202	2SC829(B)	0305460	1 B
TR202		0305461	2 B
TR204		0305461	2 B
		0305461	2 C
TR301	2SC829 (C)	0305461	1 B
TR302		0305461	1, 2 B
TR303		0305461	2C
TR304	000711(0)	0305733	1 A
TR401	2SC711(G)	0305732	2 A
TR402	2SC711(F)	0305732	2 A
TR403	)	0305733	2 A
TR404	2SC711(G)	0300292	2 A
TR405	2SA678-7		
IC201	TA-7061AP	0360060	1 B
D201	1	0310400	1 A
D202		0310400	1 A
D203	N34A	0310400	2 B
D204		0310400	1 B
D204	DS430	0340090	2 A
D301	\\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	0310400	2 B
D301		0310400	1 B
D302 D303	il.	0310400	2 B
D303	N34A	0310400	2 B
D304 D401		0310400	2 A
D401 D402	IJ	0310400	2 A
D402 D403	1	0310401	2 A
		0310401	1 A
D404	) IN34A (Y)	0310401	2 A
D405		0310401	2 A
D406 D408	IN34A	0310400	2 A
T101	FM IFT	4235790	1 C
T201	FM Discriminator	4235750	1 B
	IN ENA LUSCEIMINGIOT	1	1 B

w	x	Y	Z
T203	514 14 1 C-!!	4235770	2 B
T204	FM Meter Coil	4235780	2 B
T301	CFU-73B Ceramic Filter	4230550	1,2B
T302	) AM JET	4230510	1,2B
T303	AM IFT	4230500	1,2B
T304	AM OSC Coil	4220280	2 B
T401	MPX Coil	4240630	1, 2 A
T402	MIFA COII	4240620	1, 2 A
L101	FM Antenna Coil	4200370	1 C
L102	FM RF Coil	4210090	1 C
L103	Choke Coil	4290110	1 C
L104	FM OSC Coil	4220270	1 A
L201	)	4900030	1 B
L202	Peaking Coil	4290011	1, 2 A
L303	)	4290011	
L401	MPX Coil	4240640	1 A
L402	Ferri Inductor	4900030	1 A
L403	MPX Coil	4240610	1 A
SFC201	SFC-10.7MA Ceramic Filter	0910120	1 B
SFC202	SFC-10.7MA Ceramic Filter	0910120	1 B

### FRONT CHANNEL BLOCK (F-1390-1)

W		X	Y	Z
<b>R</b> 601	1kΩ \		0101102	1 A
R602	lkΩ		0101102	2 A
<b>R</b> 603	68kΩ		0101683	1 A
R604	68kΩ		0101683	2 A
R605	220kΩ		0101224	2 A
R606	220kΩ		0101224	2 A
<b>R</b> 607	470Ω		0101471	1 A
R608	470Ω		0101471	2 A
R609	220kΩ		0101224	1 A
R610	220kΩ		0101224	2 A
R611	5.6kΩ		0101562	1 A
R612	5.6kΩ		0101562	2 A
R613	390Ω		0101391	1.4
R614	390Ω		0101391	2 A
R615	270Ω		0101271	1 A
R616	270Ω		0101271	2 A
	100kΩ		0101104	1 A
R617	100kΩ		0101104	2 A
R618	4.7kΩ		0101472	1 A
R619	4.7kΩ 4.7kΩ		0101472	2 A
R620	22kΩ		0101223	1 A
R621	_ 1		0101223	2 A
R622	22kΩ		0101223	1 A
R623	220kΩ		f .	2 A
R 624	220kΩ		0101224	
R625	100Ω		0101101	2 A
R 626	470Ω		0101471	2A, B
<b>R</b> 701	2.2kΩ		0101222	1 A
<b>R</b> 702	2.2kΩ	±10% ¼W CF	0101222	2 A
<b>R</b> 703	IMΩ	, ± 10/2 /4 VV C		1 A
<b>R</b> 704	1ΜΩ		0101105	2 A , B
<b>R</b> 705	3.9kΩ		0101392	1 A
<b>R</b> 706	3.9kΩ		0101392	2A, B
<b>R</b> 707	560Ω		0101561	1 A
<b>R</b> 708	560Ω		0101561	2 A
<b>R</b> 709	10kΩ.		0101103	1 B
<b>R</b> 710	10kΩ		0101103	2 B
<b>R</b> 711	330kΩ		0101334	1 B 2 B
<b>R</b> 712	330kΩ		0101334	1 B
R713	22kΩ		0101223	
<b>R</b> 714	22kΩ		0101223	2 B 1 B
R715	10kΩ		0101103	
R716	10kΩ		0101103	2 B
<b>R</b> 717	1.2kΩ		0101122	1 A
R718	1.2kΩ		0101122	2 A
<b>R</b> 719	2.2kΩ		0101222	1 B
<b>R</b> 720	2.2kΩ		0101222	2 B
<b>R</b> 721	1.2kΩ		0101122	1 B
<b>R</b> 722	1.2kΩ		0101122	2 B
<b>R</b> 723	2.2kΩ		0101222	1 B
<b>R</b> 724	2.2kΩ		0101222	2 B
<b>R</b> 725	470kΩ		0101474	1 B
R 726	470kΩ		0101474	2 B
R727	150kΩ		0101154	1 B
<b>R</b> 728	150kΩ		0101154	2 B
<b>R</b> 729	5.6kΩ		0101562	1 B
<b>R</b> 730	5.6kΩ		0101562	2 B
	680Ω		0101681	1 B

			1
W	X	Y	Z
<b>R</b> 732	(Ω086	0101681	2 B
<b>R</b> 733	2.2kΩ	0101222	1 B
<b>R</b> 734	2.2kΩ	0101222	2 B
<b>R</b> 735	27kΩ	0101273	1 B
<b>R</b> 736	27kΩ	0101273	2 B
<b>R</b> 805	390kΩ	0101394	1 B
<b>R</b> 806	390kΩ	0101394	2 B
<b>R</b> 809	220kΩ	0101224	1 B
<b>R</b> 810	220kΩ	0101224	2 B
<b>R</b> 813	4.7kΩ	0101472	1 B
R814	4.7kΩ	0101472	2 B
R817	2.2kΩ	0101222	1 B
<b>R</b> 818	2.2kΩ	0101222	2 B
<b>R</b> 821	470Ω	0101471	18
R822	470Ω	0101471	<b>2</b> B
<b>R</b> 825	5.6kΩ	0101562	1 B
R826	$\frac{5.6k\Omega}{\pm 10\%}$ $\pm 10\%$ ½W CR.	0101562	2 B
R829	47kΩ	0101473	1 C
R830	47kΩ	0101473	2C
R833 R834	15kΩ	0101153	1 B
R834 R837	15kΩ	0101102	2 B 1 C
R838	IkΩ IkΩ	0101102	20
R841	2.2kΩ	0101102	1 C
R842	2.2kΩ	0101222	2 C
R845	22Ω	0101220	1 C
R846	$22\Omega$	0101220	2 C
<b>R</b> 849	220Ω	0101221	1 C
<b>R</b> 850	220Ω	0101221	<b>2</b> C
R853	220Ω	0101221	1 C
R854	220Ω	0101221	<b>2</b> C
R857	33Ω	0101330	1 C
R858	33Ω	0101330	2 C
R861	220Ω	0101221	1 C
R862	220Ω)	0101221	1 C 1 C
R865 R866	$\begin{pmatrix} 22\Omega \\ 22\Omega \end{pmatrix}$	0111220	2 C
R869	$\frac{2232}{330\Omega}$ $\pm 10\%$ ½W SR.	0111331	1 C
R870	330Ω	0111331	2 C
R873	22kΩ ±10% ¼W CR.	0101223	2 C
110/0			
VR601	$5$ k $\Omega$ (B) FM Stereo Separation Ad	i. 1031092	2 A
VR801	1)	1031152	1 C
<b>VR</b> 802	$\left.\right\}$ 200k $\Omega$ (B) AC Balance Adj.	1031152	1 C
<b>VR</b> 805	0000 (0) 00 0: 4 !:	1031022	2 C
<b>∨R</b> 806	$\left.\right\}$ 200 $\Omega$ (B) DC Bias Adj.	1031022	1 C
C601	1,45)	0610101	1 A
C602	$\begin{pmatrix} 1  \mu F \\ 1  \mu F \end{pmatrix}$ RN 50 V EC.	0519101 0519101	1 A 2 A
C603	1,μr) 1,50pF)	0660151	1 A
C604	1.50pF	0660151	2 A
C605	100pF \ ±10% 50 V CC.	0660101	1 A
C606	100pF	0660101	2 A
C607	10 uF)	0512100	1 A
<b>C</b> 608	$10\mu F$ 16 V EC.	0512100	2 A
	to a second control of the control o	1	

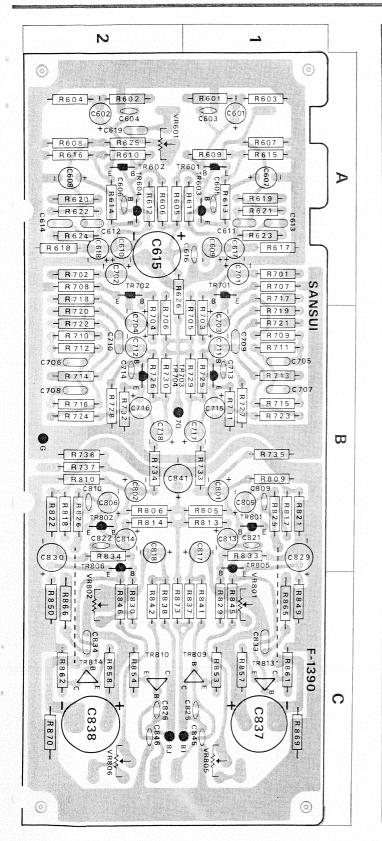
# PRINTED CIRCUIT BOARDS AND PARTS LIST

W: Parts No. X: Parts Name Y: Stock No. Z: Position of Parts

### FRONT CHANNEL BLOCK $\langle F\text{-}1390\text{-}1 \rangle$ continued

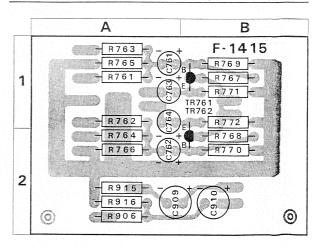
FRON	I CHANNEL BLOC	1/ /1.10	<u> </u>
w	х	Y	Z
C609	4.7 μF)	0513479	1 A
C610	4.7 μF 25 V EC.	0513479	2 A
<b>C</b> 611	0.0033 μF \	0601336	1 A
C612	0.0033 µF	0601336	2 A
C613	$0.012 \mu F$ $\pm 10\%$ 50 V MC.	0601127	1 A
C614	0.012 <i>μ</i> F J	0601127	2 A
C615	$220\mu\text{F}$ 25 V EC.	0513221	1 A
C616	$0.022 \mu F \frac{+80}{-20}\%$ 25 V CC.	0656223	1 A
C617	0.33 (/E)	0563228	1 A
C618	$0.22\mu F$ 25 V AEC.	0563228	2 A
C619	0.0022μF ±10% 50 V MC.	0601226	2 A
<b>C</b> 703	10μF) 25 V 5C	0513100	1 B
C704	$10\mu\text{F}$ 25 V EC.	0513100	2 B
<b>C</b> 705	0.033 μF )	0601337	1 B
<b>C</b> 706	0.033 μF	0601337	2 B
<b>C</b> 707	$0.033 \mu F \pm 10\% 50 V MC.$	0601337	1 B
<b>C</b> 708	0.033μF \ ±10% 30 V IVIC.	0601337	2 B
<b>C</b> 709	0.0022 <i>μ</i> F	0601226	1 B
<b>C</b> 710	0.0022 <i>μ</i> F )	0601226	2 B
<b>C</b> 711	$3.3 \mu F$ 50 V EC.	0515339	1 B
C712	3.3 μF )	0515339	2 B
<b>C</b> 713	$\{68pf\}$ $\pm 10\%$ 50 V CC.	0660680	1 B
<b>C</b> 714	68pF) 110% 30 V CC.	0660680	2 B
C715	$10\mu F$ 16 V EC.	0512100	1 B
<b>C</b> 716	10μF)	0512100	2 B
<b>C</b> 717	$10\mu\text{F}$ 25 V EC.	0513100	1 B
C718	10μF)	0513100	2 B
C801	$0.47 \mu\text{F}$ 50 V EC.	0515478	1 B
C802	0.47 μF )	0515478	2 B
C805	$100 \mu F$ 6.3 V EC.	0510101	1 B
C806	100 <i>μ</i> F J	0510101	2 B
C813	$3.3 \mu F$ 35 V EC.	0514339	1 B
<b>C</b> 814	3.3 μF J	0514339	28
C817	$10\mu\text{F}$ 25 V EC.	0513100	1 B
C818	10 μF )	0513100	2 B
C821	100pF	0660101	1 B
C822	100pF \ ±10% 50 V CC.	0660101	2 B
C825	220pr	0660221	1 C 2 C
C826	220pFJ	0660221	
C829	$100 \mu F$ 6.3 V EC.	0510101	1 B 2 B
C830	100 µF )	0510101	
C833	$0.033 \mu F$ $\pm 10\%$ 50 V MC.	0601337	1 C 2 C
C834	0.033 µF)	0601337	i
C837	$1000 \mu F$ 25 V EC.	0513102	1 C 2 C
C838	1000 μF	0513102	2 B
C841		0511101	10
C845 C846	$\begin{pmatrix} 0.047 \mu F \\ 0.047 \mu F \end{pmatrix} + \frac{80}{-20}\%$ 50 V CC.	0657473	2C
TR601	} 2SC632A-81	0305762	1 A
TR602	J 23C032A-01	0305762	2 A
TR603	2SC871 (F)	0305472	1 A
TR604	] 2300/1(1)	0305472	2 A
TR701	2SC632A-7 (white)	0305766	1 A
TR702	23C032A-7 (WIITE)	0305766	2 A
TR703	2SC871 (E)	0305471	1 B
TR704		0305471	2 B

W	×	Y	Z
TR801	000004(0)	0305156	1 B
TR802	2SC536 (G)	0305156	2 B
TR805	000000000000000000000000000000000000000	0305155	1 B , C
TR806	2SC536 (F)	0305155	2B,C
TR809	000(044 (4 7)	0305891, 2	1 C
TR810	2SC634A (6, 7)	0305891, 2	2 C
TR813	054(78(/ 7)	0300291, 2	1 C
TR814	2SA678 (6, 7)	0300291, 2	2 C



#### BLEND BLOCK (F-1415)

W	X		Υ	Z
<b>R</b> 761	18kΩ \		0101183	1 A
<b>R</b> 762	18kΩ		0101183	1 A
R763	8.2kΩ		0101822	1 A
R764	10kΩ		0101103	2 A
R765	100kΩ		0101104	1 A
<b>R</b> 766	100kΩ		0101104	2 A
R767	220kΩ		0101224	1 B
<b>R</b> 768	$220k\Omega$ $\pm 10\%$	6 1/4 W CR.	0101224	2 B
R769	220kΩ		0101224	1 B
<b>R</b> 770	220kΩ		0101224	2 B
R771	5.6kΩ		0101562	1 B
R772	5.6kΩ		0101562	1 B
R906	1.5kΩ		0101152	2 A
R915	68kΩ		0101683	2 A
R916	68kΩ)		0101683	2 A
C761	0.47 μF )		0563478	1 A
C762	0.47 μF	2013 3229	0563478	2 A
<b>C</b> 763	0.47 μF	25 V AEC.	0563478	1 A
C764	0.47 μF/		0563478	1 A
C909	47 µF)	14.14.50	0512470	2 A
C910	47 μF }	16 V EC.	0512470	2 A
TR761	2SC871(F)		0305472	1 B
TR762	2SC871 (F)		0305472	2 B



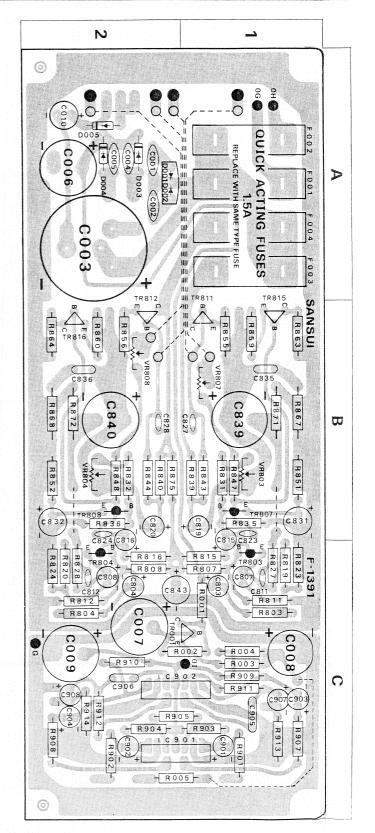
# PRINTED CIRCUIT BOARDS AND PARTS LIST

W: Parts No. X: Parts Name Y: Stock No. Z: Position of Parts

### REAR CHANNEL, POWER BLOCK (F-1391-1)

W	X	Y	Z	W	x	Y	Z
R001	4.7 \( \Omega \)	0101479	1 C	VR804	200kΩ (B) AC Balance Adj.	1031152	2 B
R002	$\frac{4.7 k\Omega}{4.7 k\Omega} \pm 10\% \frac{1}{4} W CR.$	0101472	1, 2 C	VR807	)	1031022	2 B
R003	47Ω ±10% ½W SR.	0111470	1 C	VR808	200Ω (B) DC Bias Adj.	1031022	2 B
R004	47Ω\	0111470	1 C				
R005	56Ω	0101560	1, 2 C	C001	0.047μF) +80 g/ 50 V CC	0657473	2 A
<b>R</b> 803	2.2kΩ	0101222	10	C002	$0.047 \mu F$ $+80\%$ 50 V CC.	0657473	2 A
R804	2.2kΩ	0101222	2 C	C003	2200μF 35 V EC.	0549005	2 A
<b>R</b> 807	390kΩ	0101394	1 C	C004	$0.047 \mu F$ $+80\%$ 50 V CC.	0657473	2 A
R808	390kΩ	0101394	2 C	C005	$0.047\mu F$ $^{-20}$ 30 $^{-20}$	0657473	2 A
<b>R</b> 811	220kΩ	0101224	1 C	C006	330μF 50 V EC.	0515331	2 A
<b>R</b> 812	220kΩ	0101224	2 C	C007	330µF)	0514331	2C
R815	4.7kΩ	0101472	1 C	C008	$  100 \mu F \rangle$ 35 V EC.	0514101	1C
R816	4.7kΩ	0101472	2 C	C009	330μF J	0514331	2 C
R819	2.2kΩ	0101222	1 C	C010	100μF 10 V EC.	0511101	2 A
R820	2.2kΩ	0101222	2 C	C803	1,/F)	0515109	1 C
R823	82Ω	0101820	1C	C804	$1\mu F$ 50 V EC.	0515109	2 C
R824	82Ω	0101820	2 C	C807	100μF)	0510101	1 C
<b>R</b> 827	8.2kΩ	0101822	1 C	C808	$100\mu F$ 6.3 V EC.	0510101	2 C
R828	8.2kΩ	0101822	2 C	C811	100pF ± 10% 50 V CC.	0660101	1 C
R831	$47k\Omega$ $\pm 10\%$ ½W CR.	0101473	1 B	C812	100pF) ±10% 30 V CC.	0660101	2 C
R832	47kΩ (	0101473	2 B	<b>C</b> 815	10µF)	0512100	1B, C
R835	15kΩ	0101153	1 B	C816	10 μF 16 V EC.	0512100	2B, C
R836	15kΩ	0101153	2 B	C819	$10\mu F$ 25 V EC.	0513100	1 B
R839	lkΩ	0101102	1 B	C820	10μF) 23 V EC.	0513100	2 B
R840	lkΩ	0101102	2 B	C823	47pF)	0660470	1 B
R843	2.2kΩ	0101222	1 B	C824	47pF \ ±10% 50 V CC.	0660470	2 B
R844	2.2kΩ	0101222	2 B	C827	220pf = 10% 30 V CC.	0660221	1 B
R847	22Ω	0101220	1 B	C828	220pF)	0660221	2 B
R848	22 \Omega	0101220	2 B	C831	$100 \mu F$ 6.3 V EC.	0510101	1 B
R851	220Ω	0101221	1 B	C832	100με)	0510101	2 B
R852	220Ω	0101221	2 B	C835	$0.033 \mu F$ $\pm 10\% 50 V MC.$	0601337	1 B
R655	220Ω	0101221	1 B	C836	$[0.033\mu\text{F}]$	0601337	2 B
R856	220Ω	0101221	2 B	C839	1000μF) 25 V EC.	0513102	1 B
R859	33 Ω	0101330	1 B	C840	1000με)	0513102	2 B
R860	33Ω	0101330	2 B	C843	100μF 10 V EC.	0511101	1, 2C
R863	220Ω	0101221	1 B	C901	1μΕ	0515109	1 C
R864	220Ω′	0101221	28	C902	$1\mu$ F 50 V EC.	0515109	2 C
R867	22Ω	0111220	2 B	C903	Ι με [	0515109	10
R868	$22\Omega$ $\pm 10\%$ ½W SR.	0111220	1 B 2 B	C904	1μF J	0515109	2 C
R871	33012	0111331	1 B	C905	$0.1 \mu F$ $\pm 10\%$ 50 V MC.	0601108	2 C
R872	330Ω)	0101223	2 B	C906	0.047 μF 10% 30 V W.C.	0601477	1 C
R875	$22k\Omega \pm 10\% \% \text{ CR}.$	0101223	1 C	C907	$1 \mu F$ 50 V EC.	0515109	2C
R901	47kΩ	0101473	2 C	C908	1μF)	0515109	120
R902	47kΩ	0101104	1 C				
R903	100kΩ	0101104	2 C	TR001	2SC971 (2)	0305530	1,2C
R904	100kΩ	0101272	1, 2 C	TR803	2SC536 (G)	0305156	1 C
R905	2.7kΩ	0101153	10	TR804	)	0305156	2 C
R907	$15k\Omega$   $15k\Omega$ $\rangle \pm 10\%$ $\frac{1}{4}$ W CR.	0101153	2 C	TR807	2SC536 (F)	0305155	1 B
R908	$15k\Omega$ $\Rightarrow$ $\pm 10\%$ ¼W CR.	0101104	10	TR808	)	0305155	2 B
R909	1	0101104	2C	TR811	2SC634A (6, 7)	0305891, 2	1 A
R910	100kΩ	0101164	1 C	TR812	1	0305891,2	2 A
R911	5.6kΩ	0101562	2 C	TR815	2SA678 (6, 7)	0300291,2	1 A
R912	5.6kΩ	0101104	10	TR816	J	0300291,2	2 B
R913	100kΩ 100kΩ	0101104	2 C				
R914	1008227	1.01104		IC901	Hybrid IC	0820031	1,2C
		1031152	1 B	IC902	IZ HYDRIG IC	0820031	1, 2 C

W	X	Υ	Z
D001		0310680	2 A
D002	10DC1	0310680	2 A
D003		0310870	2 A
D004	SR1FM2	0310870	2 A
D005	10D05	0310880	2 A
F001	Front Left	0433222	1 A
F002	Front Right	0433222	1 A
F003	Rear Left Quick Acting Fuse (1.5A)	0433222	1 A
F004	Rear Right	0433222	1 A



# OTHER PARTS AND THEIR POSITIONS ON CHASSIS

W: Parts No. X: Parts Name Y: Stock No.

#### OTHER PARTS

w	X	Y
R006	33Ω <sub>)</sub>	0101330
R425	33kΩ	0101333
R651	220kΩ	0101224
R652	220kΩ	0101224
R653	100kΩ	0101104
R654	$100k\Omega$ $\pm 10\%$ ½W CR.	0101104
<b>R</b> 751	33k(1)	0101333
R752	33kΩ	0101333
R753	33kΩ	0101333
R754	33kΩ 56kΩ	0101563
R755	$56k\Omega$	0101563
R756 R881	220(1)	0111221
R882	$\frac{220\Omega}{220\Omega}$ ± 10% ½W SR.	0111221
R915	1840)	0101183
R916	$\frac{18k\Omega}{18k\Omega}$ ± 10% 1/4W CR.	0101183
C011	0.01μF 1.4kV CC.	0659801
C012	220 μF 16 V EC.	0512221
<b>C</b> 013	$0.022 \mu$ F $^{+80}_{-20}\%$ 50 V CC.	0657223
C701	$\begin{cases} 1  \mu F \\ 1 & \end{cases}$ 50 V EC.	0515109
<b>C</b> 702	1 μF) 30 V EC.	0515109
<b>C</b> 751	0.01μΕ	0601107
C752	$0.01 \mu F$ $\pm 10\%$ 50 V MC.	0601107
C753	$0.01\mu \text{F}$	0601107
C754	$0.01 \mu F$ )	0660151
C755 C756	$\frac{150pF}{150pF}$ $\pm 10\%$ 50 V CC.	0660151
/R 701~702	250k $\Omega$ (B) $ imes$ 2 Front Channel Volume	1040120
VR 703~704	$250$ k $\Omega$ (B) $\times$ 2 Rear Channel Volume	1040120
VR 705~706	$100k\Omega$ (B) $\times$ 2 Bass Control	1010760
VR 707~708	100kΩ(B)×2 Treble Control	1010760
TR817~824	2SD330 (D, E)	0 308361, 2
D407	DS-410	0340030
D801~804	SV3A	0340070
PT001	Power Transformer	4001050
<b>L</b> 301	AM Bar Antenna	4200280
L302	Microinductor	4900110
M001	Tuning Metar	4300260
<b>\$</b> 1(a∼p)	Selector Switch	1104190
<b>\$</b> 2(a, b)	Tape Monitor Switch	1130400
<b>S</b> 3(a∼e)	Synthesizer/Decoder Switch	1130400
S4	Power Switch	2430140
J001 J002	Headphones Jack DIN Jack	2430140
CO001	AC Outlet	2450040
PL001	6.3V 250mA)	0420020
PL002, 003	6.3V 250mA Pilot Lamp	042003
PL004, 005	7 V 200mA)	O 400153,
PL006	6 V 30mA FM Stereo Indicator	0400110
		2410080
PU001	Voltage Selector	241009

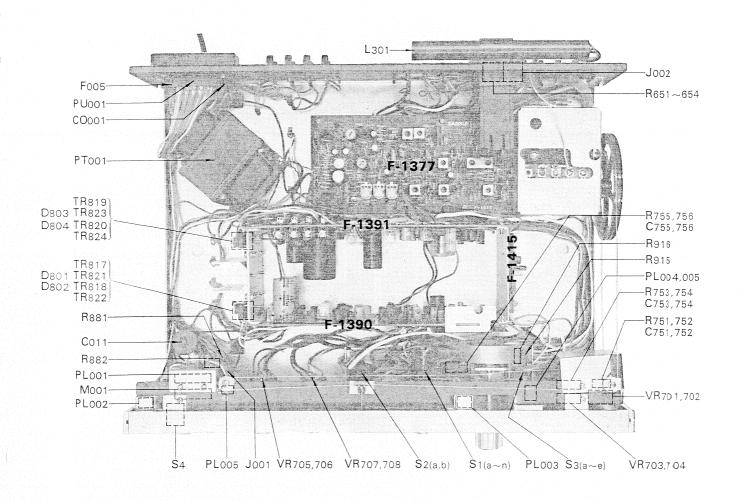
#### \_\_\_Abbreviations

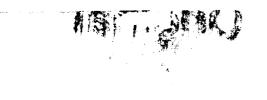
CR : Carbon Resistor SR : Solid Resistor

CC: Ceramic Capacitor
EC: Electrolytic Capacitor

MC : Mylar Capacitor SC : Styrol Capacitor MiC : Mica Capacitor

AEC: Aluminium Solid Electrolytic Capacitor





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